ABSTRACT

A phase-change optical recording medium capable of implementing record and readout operations of information data through reversible phase transition between amorphous and crystalline states induced by light beam irradiation in a recording layer included in the recording medium, including at least a transparent substrate and contiguous layers formed on the substrate in order as follows, a lower dielectric protective layer, the recording layer, an upper dielectric protective layer, and a reflective/ heat dissipating layer, in which the upper dielectric protective layer essentially consists of a mixture of ZrO_2 and SiO_2, having a composition of $(ZrO_2)_{100-x}$ $(SiO_2)_x$, where $0 < x < 60$ (mole %).

The phase-change optical recording medium may alternatively include at least a reflective/ heat dissipating layer provided contiguously to at least one surface of a recording layer, having a dielectric protective layer interposed between the reflective/ heat dissipating layer and the recording layer, in which the recording layer essentially consists of a phase-change recording material having the Sb_3Te metastable phase, the dielectric protective layer consists of a dielectric material containing ZrO_2 as a major ingredient, and the reflective/ heat dissipating layer consists of Ag, as a major ingredient.